

WHAT IS CLAIMED IS:

1. A method of coating free-standing micromechanical devices, the method comprising:
 - depositing an organic resin coating material on said micromechanical device, said coating material comprised of at least 35% solids in a solvent, said coating material having a viscosity no greater than 120 centistokes; and
 - curing said coating material.
2. The method of Claim 1, said depositing comprising depositing a coating material having a viscosity of 118 centistokes.
3. The method of Claim 1, said depositing comprising depositing a coating material having a surfactant.
4. The method of Claim 1, said depositing comprising depositing said coating material in a layer thick enough to cover structures on said micromechanical device after the removal of said solvent.
5. The method of Claim 1, comprising:
 - rotating said micromechanical device to distribute said organic coating material.
6. The method of Claim 1, comprising:
 - rotating said micromechanical device at 3000 rpm to distribute said organic coating material.
7. The method of Claim 1, said curing comprising:
 - heating said micromechanical device.
8. The method of Claim 1, said curing comprising:
 - heating said micromechanical device at 100° C.
9. The method of Claim 1, said curing comprising:

heating said micromechanical device to a first elevated temperature to remove a majority of said solvent, and then lowering said temperature to remove additional solvent.

10. A method of coating free-standing micromechanical devices, the method comprising:
 - depositing an organic resin coating material on said micromechanical device, said coating material comprised of at least 35% solids in a solvent, said coating material having a viscosity no greater than 120 centistokes;
 - rotating said micromechanical device to distribute said organic coating material;
 - and
 - curing said coating material.
11. The method of Claim 10, said depositing comprising depositing a coating material having a viscosity of 118 centistokes.
12. The method of Claim 10, said depositing comprising depositing a coating material having a surfactant.
13. The method of Claim 10, said depositing comprising depositing said coating material in a layer thick enough to cover structures on said micromechanical device after the removal of said solvent.
14. The method of Claim 10, comprising:
 - rotating said micromechanical device at 3000 rpm to distribute said organic coating material.
15. The method of Claim 10, said curing comprising:
 - heating said micromechanical device.
16. The method of Claim 10, said curing comprising:

heating said micromechanical device at 100° C.

17. The method of Claim 10, said curing comprising:

heating said micromechanical device to a first elevated temperature to remove a majority of said solvent, and then lowering said temperature to remove additional solvent.

18. A method of coating free-standing micromechanical devices, the method comprising:

depositing an organic resin coating material on said micromechanical device, said coating material comprised of at least 40% solids in a solvent, said coating material having a viscosity no greater than 120 centistokes; and
curing said coating material.

19. The method of Claim 18, said depositing comprising depositing a coating material comprised of between 40 and 50% solids.

20. The method of Claim 18, said depositing comprising depositing a coating material comprised of 49% solids.

21. The method of Claim 18, said depositing comprising depositing a coating material having a viscosity of 118 centistokes.

22. The method of Claim 18, said depositing comprising depositing a coating material having a surfactant.

23. The method of Claim 18, said depositing comprising depositing said coating material in a layer thick enough to cover structures on said micromechanical device after the removal of said solvent.

24. The method of Claim 18, comprising:

rotating said micromechanical device to distribute said organic coating material.

25. The method of Claim 18, comprising:

rotating said micromechanical device at 3000 rpm to distribute said organic coating material.

26. The method of Claim 18, said curing comprising:

heating said micromechanical device.

27. The method of Claim 18, said curing comprising:

heating said micromechanical device at 100° C.

28. The method of Claim 18, said curing comprising:

heating said micromechanical device to a first elevated temperature to remove a majority of said solvent, and then lowering said temperature to remove additional solvent.

29. A method of coating free-standing micromechanical devices, the method comprising:

depositing a solvent layer on said micromechanical device;

depositing an organic resin coating material on said solvent layer;

allowing said organic resin coating material to displace said solvent layer; and

curing said organic resin coating material.

30. The method of Claim 29, said depositing an organic resin coating material comprising

depositing an organic resin coating material having a viscosity no greater than 120 centistokes.

31. The method of Claim 29, said depositing an organic resin coating material comprising

depositing an organic resin coating material having a viscosity of 118 centistokes.

32. The method of Claim 29, said depositing a solvent layer comprising

depositing a layer of PGMEA.

33. The method of Claim 1, said depositing an organic resin coating material comprising depositing an organic resin coating material comprised of at least 35% solids in a solvent.

34. The method of Claim 29, said depositing a solvent layer comprising depositing a layer of solvent and dissolved organic resin.

35. The method of Claim 29, said depositing a solvent layer comprising depositing a layer of PGMEA and dissolved organic resin.

36. The method of Claim 29, comprising:
rotating said micromechanical device to distribute said solvent.

37. The method of Claim 29, comprising:
rotating said micromechanical device to distribute said organic resin coating material.

38. The method of Claim 29, comprising:
rotating said micromechanical device to remove excess solvent.

39. The method of Claim 29, comprising:
rotating said micromechanical device to remove excess organic resin coating material.

40. The method of Claim 29, said curing comprising:
heating said micromechanical device.

41. The method of Claim 29, said curing comprising:
heating said micromechanical device at 100° C.

42. The method of Claim 29, said curing comprising:

heating said micromechanical device to a first elevated temperature to remove a majority of said solvent, and then lowering said temperature to remove additional solvent.